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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/807,618	03/24/2004	Jorge L. Cordoves	CD79/01	4046

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EXAMINER

FULLER, ROBERT EDWARD

ART UNIT	PAPER NUMBER
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3672

DATE MAILED: 02/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/807,618	Applicant(s) CORDOVES, JORGE L.	
	Examiner Robert E. Fuller	Art Unit 3672	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: In line 13 of page 14 of the specification, the applicant states that "The primary bit is preferably sized to correspond with the primary bit." Examiner suggests that the sentence be changed to --The secondary bit is preferably sized to correspond with the primary bit--.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cherrington (US 4,735,885) in view of Sabre (3,871,488), McGillis (US 6,682,264), and Wentworth (US 2001/0016148).

Cherrington discloses an apparatus capable of drilling through a wall and running a conduit within the wall. Cherrington's apparatus has the following features:

- a. An operator controlled drill with a chuck rotatable about a central axis, the chuck having a water passageway along the central axis (figure 3, items 16, 17, 18, and 26)
- b. An extension rod having an interior end and an exterior end with a water passageway along the central axis, the exterior end being formed with male screw threads and the interior end being removably received by the chuck for rotation therewith (item 10)
- c. A primary bit having a cylindrical interior end and a conical exterior end, also having a large diameter bore (water passageway), the large diameter bore having female threads at the interior end for releasably coupling with the male threads of the extension rod (item 14)
- d. A secondary bit (figure 5, item 40) having an interior end and an exterior end, also having a large diameter bore (water passageway) with female threads at the interior end for releasably coupling with the male threads of the extension rod
- e. A coupler (figure 5, item 63) having a rearward end couplable to a linear member (figure 5, item 38) and a forward end couplable to the rearward end of the secondary bit (figure 5, item 40)

Cherrington does not disclose the following features:

- f. The conical section of the primary bit having 4 helical ridges

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- g. The interior end of the primary bit having four small diameter bores extending forwardly from the large diameter bore to an intermediate extent of the conical section
- h. A secondary bit having a generally cylindrical section extending forwardly from the interior end and a conical section extending rearwardly from the exterior end
- i. The secondary bit having four small diameter bores extending forwardly from the large diameter bore to an intermediate extent of the conical section
- j. A line having an interior end coupled to an insert within the secondary bit, and an exterior end coupled to a winch

Sabre discloses a drill bit for drilling through rock. Sabre further discloses helical ridges along the length of the conical section of the drill bit (figures 8 and 9, items 234 and 239), as well as a plurality of fluid discharge ports (figures 8 and 9, item 240), many of which terminate at the midpoint of the conical section.

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have replaced the primary bit of Cherrington with the bit of Sabre, in order to have provided more cutting power, and to have provided a remedy for the tendency of the bit "to depart from true verticality [or horizontality]," (Sabre, column 2, line 11) and in order to have provided a means for cooling and lubricating the primary bit as it cut through the wall.

McGillis discloses a method of trenchless installation of underground pipe.

McGillis further discloses a secondary bit (figure 10, item 116) with a cylindrical interior

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end and a conical exterior end. Examiner notes that the interior end is considered to be the end that faces the drill, and the exterior end is the end which faces away from the drill. McGillis also discloses a line (figure 10, item 118) attached to an insert within the secondary bit.

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have replaced the secondary bit of Cherrington in view of Sabre, with the secondary bit of McGillis, in order to have provided a way of enlarging the bore as the bit moved back through the hole, which would have facilitated movement of the electrical conduit, copper pipe, or other linear member through the hole.

Sabre discloses a drill bit for drilling through rock. Sabre further teaches a plurality of fluid discharge ports (figures 8 and 9, item 240), many of which terminate at the midpoint of the conical section.

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have replaced the secondary bit of Cherrington in view of McGillis with the bit of Sabre, in order to have provided a means for cooling and lubricating the secondary bit as it pulled the line back through the hole.

Wentworth discloses an apparatus for pulling a conduit or pipeline through an underground bore. Wentworth further teaches a pulling cable (item 37) attached to a bit (item 10A), where the other end of the cable is attached to a winch (item 52).

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have modified the apparatus of Cherrington in view of

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McGillis and Sabre, to have included the pulling cable and winch of Wentworth, in order to have applied "a continuous pulling force to the tool in the forward direction" (paragraph 0009, line 3), which would have helped overcome the force of friction and kept the tool moving within the borehole.

5. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cherrington (US 4,785,885) in view of McGillis (US 6,682,264).

Cherrington discloses an apparatus for cementing a conduit within an underground bore. Cherrington's apparatus has the following features:

- k. An extension rod (item 12)
- l. A primary bit having a cylindrical interior end and a conical exterior end (item 14)
- m. A secondary bit (figure 5, item 40) with a length of line (items 50 and 52) coupled to its exterior end
- n. A coupler (figure 5, item 63) having a rearward end couplable to a linear member (figure 5, item 38) and a forward end couplable to the rearward end of the secondary bit (figure 5, item 40)

Cherrington does not disclose a secondary bit having a cylindrical interior end and a conical exterior end.

McGillis discloses a method of trenchless installation of underground pipe. McGillis further discloses a secondary bit (figure 10, item 116) with a cylindrical interior end and a conical exterior end. Examiner notes that the interior end is considered to be

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the end that faces the drill, and the exterior end is the end which faces away from the drill.

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have replaced the secondary bit of Cherrington, with the secondary bit of McGillis, in order to have provided a way of enlarging the bore as the bit moved back through the hole, which would have facilitated movement of the electrical conduit, copper pipe, or other linear member through the hole.

6. Claims 3-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cherrington in view of McGillis as applied to claim 2 above, and further in view of Sabre (US 3,871,488).

With regard to claim 3, Cherrington and McGillis disclose all of the limitations of the above claims, except for the primary bit having four helical ridges along the length of the conical section.

Sabre discloses a drill bit for drilling through rock. Sabre further discloses helical ridges along the length of the conical section of the drill bit (figures 8 and 9, items 234 and 239).

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have replaced the primary bit of Cherrington in view of McGillis with the bit of Sabre, in order to have provided more cutting power, and to have provided a remedy for the tendency of the bit "to depart from true verticality," (Sabre, column 2, line 11) or horizontality in a horizontal earth boring system.

With regard to claim 4, Cherrington and McGillis disclose all of the limitations of the above claims, except for the primary bit including a water passageway and four small diameter bores, which terminate at an intermediate point of the conical section.

Sabre discloses a drill bit for drilling through rock. Sabre further teaches a plurality of fluid discharge ports (figures 8 and 9, item 240), many of which terminate at the midpoint of the conical section.

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have replaced the primary bit of Cherrington with the bit of Sabre, in order to have provided a means for “cooling [the cutting ridges] and for urging debris away...and upwardly” from the bit (Sabre, column 3, line 17).

With regard to claim 5, Cherrington and McGillis disclose all of the limitations of the above claims, except for the secondary bit including a water passageway and four small diameter bores, which terminate at an intermediate point of the conical section.

Sabre discloses a drill bit for drilling through rock. Sabre further teaches a plurality of fluid discharge ports (figures 8 and 9, item 240), many of which terminate at the midpoint of the conical section.

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have replaced the secondary bit of Cherrington with the bit of Sabre, in order to have provided a means for cooling and lubricating the secondary bit as it pulled the line back through the hole.

Conclusion

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7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. These references further teach the state of the art with regard to tools for running conduits or pipes through underground bores.

US 5,542,486 – Curlett


US 3,697,188 – Pope

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert E. Fuller whose telephone number is 571-272-0419. The examiner can normally be reached Monday thru Friday 8:00 AM - 5:30 PM. The examiner is normally out of the office every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David J. Bagnell can be reached on 571-272-6999. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

02/06/2006
REF


Jennifer H. Gay
Primary Examiner